B.) AMENDMENTS TO THE CLAIMS

1. (Currently amended) A drive system for a plurality of motors comprising:

a variable speed drive, the variable speed drive comprising:

a converter stage to convert an input AC voltage to a DC voltage, the converter stage being configured to be electrically connectable to an AC power source;

a DC link stage to filter and store energy from the converter stage, the DC link stage being electrically connected to the converter stage; ~~and~~

an inverter stage comprising a plurality of inverters electrically connected in parallel to the DC link stage, each inverter of the plurality of inverters being configured to convert a DC voltage to an output AC voltage to power a corresponding motor of a plurality of motors, and each inverter of the plurality of inverters being configured to operate substantially independently of other inverters of the plurality of inverters; and

wherein the converter stage is configured to provide a boosted DC voltage to the DC link stage and each inverter of the plurality of inverters is configured to provide an output AC voltage greater than the input AC voltage; and

a plurality of connecting mechanisms, each connecting mechanism of the plurality of connecting mechanisms being connected in series between an inverter of the plurality of inverters and a corresponding motor of the plurality of motors, and wherein each connecting mechanism being configured to disconnect an inverter from a corresponding motor in response to receiving a control signal.

2. (Original) The drive system of claim 1 further comprising a control panel to generate the control signal for a connecting mechanism.

3. (Original) The drive system of claim 2 wherein the control panel comprises:

means for detecting a fault condition in a motor of the plurality of motors; and

means for generating the control signal for the corresponding connecting mechanism connected to the motor with the detected fault condition in response to the detection of the fault condition in the motor.

4. (Original) The drive system of claim 2 wherein the control panel comprises means for generating the control signal in response to a control instruction from a control system controlling a corresponding motor load connected to a motor of the plurality of motors.

5. (Original) The drive system of claim 1 wherein the plurality of connecting mechanisms comprises a plurality of contactors.

6. (Original) The drive system of claim 5 wherein the plurality of contactors each comprise at least one normally open contact and the control signal de-energizes the at least one normally open contact of a contactor to disconnect an inverter from a corresponding motor.

7. (Original) The drive system of claim 5 wherein the plurality of contactors each comprise at least one normally closed contact and the control signal energizes the at least one normally closed contact of a contactor to disconnect an inverter from a corresponding motor.

8. (Currently amended) A chiller system comprising:

a plurality of compressors, each compressor of the plurality of compressors being driven by a corresponding motor, the plurality of compressors being incorporated into at least one refrigerant circuit, each refrigerant circuit comprising at least one compressor of the plurality of compressors, a condenser arrangement and an evaporator arrangement connected in a closed refrigerant loop;

a variable speed drive to power the corresponding motors of the plurality of compressors, the variable speed drive being configured to provide an output voltage greater than the input voltage to the variable speed drive, the variable speed drive comprising a converter stage, a DC link stage and an inverter stage, the inverter stage having a plurality of inverters each electrically connected in parallel to the DC link stage and each powering a corresponding motor of a compressor of the plurality of compressors;

a plurality of contactors, each contactor of the plurality of contactors being connected in series between an inverter of the plurality of inverters and a corresponding motor of a compressor of the plurality of compressors, and wherein each contactor being configured to enable or disable a connection between the inverter and the corresponding motor of a compressor of the plurality of compressors in response to receiving a control signal.

9. (Original) The chiller system of claim 8 further comprising a control panel to generate a control signal for each contactor of the plurality of contactors.

10. (Original) The chiller system of claim 9 wherein the control panel comprises:

means for detecting a fault condition in a corresponding motor of a compressor of the plurality of compressors; and

means for generating a control signal for a corresponding contactor connected to the corresponding motor with the detected fault condition to disable the connection between the inverter and the corresponding motor with the detected fault condition.

11. (Original) The chiller system of claim 9 wherein the control panel comprises:

means for detecting a fault condition in a corresponding compressor of the plurality of compressors; and

means for generating a control signal for a corresponding contactor connected to a corresponding motor of the compressor of the plurality of compressors with the detected fault condition to disable the connection between the inverter and the corresponding motor of the compressor of the plurality of compressors with the detected fault condition.

12. (Original) The chiller system of claim 9 wherein the control panel comprises means for generating a control signal for a corresponding contactor connected to a corresponding motor of a compressor of the plurality of compressors to enable the connection between the inverter and the corresponding motor of a compressor of the plurality of compressors.

13. (Original) The chiller system of claim 8 wherein the plurality of contactors comprise a plurality of normally open contacts

14. (Original) The chiller system of claim 13 wherein the control signal de-energizes the normally open contacts to disable the connection between an inverter and a corresponding motor of a compressor of the plurality of compressors.

15. (Original) The chiller system of claim 13 wherein the control signal energizes the normally open contacts to enable the connection between an inverter and a corresponding motor of a compressor of the plurality of compressors.

16. (Original) The chiller system of claim 8 wherein the plurality of contactors comprise a plurality of normally closed contacts.

17. (Original) The chiller system of claim 16 wherein the control signal energizes the normally closed contacts to disable the connection between an inverter and a corresponding motor of a compressor of the plurality of compressors.

18. (Original) The chiller system of claim 16 wherein the control signal de-energizes the normally closed contacts to enable the connection between an inverter and a corresponding motor of a compressor of the plurality of compressors.

19. (Currently amended) A drive system for a multiple compressor chiller system having a plurality of motors, the drive system comprising:

a variable speed drive, the variable speed drive comprising:

a converter stage to convert an input AC voltage to a DC voltage, the converter stage being configured to be electrically connectable to an AC power source;

a DC link stage to filter and store energy from the converter stage, the DC link stage being electrically connected to the converter stage; ~~and~~

an inverter stage comprising a plurality of inverters electrically connected in parallel to the DC link stage, each inverter of the plurality of inverters being configured to convert a DC voltage to an output AC voltage to power a corresponding motor of a plurality of motors, and each inverter of the plurality of inverters being configured to operate substantially independently of other inverters of the plurality of inverters; and

wherein the converter stage is configured to provide a boosted DC voltage to the DC link stage and each inverter of the plurality of inverters is configured to provide an output AC voltage greater than the input AC voltage; and

means for isolating a motor of the plurality of motors from other motors of the plurality of motors in response to detecting a fault condition in the motor of the plurality of motors.

20. (Original) The drive system of claim 19 wherein the means for isolating a motor comprises a plurality of contactors, each contactor of the plurality of contactors being connected in series between an inverter of the plurality of inverters and a corresponding motor of the plurality of motors, and wherein each contactor being configured to disconnect an inverter from a corresponding motor of the plurality of motors with a detected fault condition.

21. (Original) The drive system of claim 20 wherein the plurality of contactors comprise a plurality of normally open contacts

22. (Original) The chiller system of claim 21 wherein the normally open contacts are de-energized to disconnect an inverter from a corresponding motor of the plurality of motors with a detected fault condition.

23. (Original) The chiller system of claim 20 wherein the plurality of contactors comprise a plurality of normally closed contacts.

24. (Original) The chiller system of claim 23 wherein the normally closed contacts are energized to disconnect an inverter from a corresponding motor of the plurality of motors with a detected fault condition.